

a first component comprising a bioactive matrix material composed of a calcium phosphate and

a second component comprising at least one cartilage-inducing and/or bone-inducing protein or DNA encoding therefor, wherein the second component is applied in and/or on the first component.

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15. The implant material of claim 14, wherein the second component comprises at least one homodimeric or heterodimeric cartilage-inducing and/or bone-inducing protein or protein fragment of the TGF- β superfamily, or DNA encoding therefor.

16. The implant material of claim 14, wherein the second component comprises a member selected from the group consisting of

- (a) the mature part of the protein sequence shown in SEQ ID NO: 1,
- (b) a portion of the mature part of the protein sequence shown in SEQ ID NO: 1 which has essentially the same cartilage-inducing and/or bone-inducing activity as the mature part,
- (c) a protein sequence which corresponds with (a) or (b) which differs from SEQ ID NO: 1 due to the origin of the protein from other vertebrates but has essentially the same cartilage-inducing and/or bone-inducing activity as (a) or (b),

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- (d) a fusion protein containing (a), (b) or (c) and a portion of another protein of the TGF- β superfamily,
- (e) a heterodimer containing (a), (b), (c) or (d) and a monomer of another protein of the TGF- β superfamily and
- (f) a protein containing a dimeric mature protein according to (a), (b), (c), (d) or (e) and a dimer of another protein of the TGF- β superfamily.

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17. The implant material of claim 14, wherein the bioactive matrix material is composed of a tricalcium phosphate ceramic comprising crystallographically phase-pure α - or β -tricalcium phosphate ceramic with an interconnecting microporosity of 20-60% of its volume.

18. The implant material of claim 17, wherein the α - or β -tricalcium phosphate ceramic has a primary particle size of 10-40 μm and causes no giant cell or connective tissue infiltration into the implant material.

19. The implant material of claim 17, wherein it is present in the form of an injectable suspension.

sub 92 20. The implant material of claim 17, wherein the first component degrades over time to release the second component in a controlled retarded manner.

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Cpt* 21. A process for the production of an implant material according to claim 14, the process comprising applying the second component in and/or on the first component as a solution in a solvent such that a homogeneous distribution of the second component in and/or on the first component is achieved.

22. The process of claim 21, wherein the solvent is removed by sublimation.

sub 93 23. The process of claim 21, wherein the second component is concentrated by *in situ* precipitation from the solvent in the first component by admixing a precipitating solvent.

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Cpt* 24. A pharmaceutical composition comprising an implant material according to claim 14 and a pharmaceutically and physiologically acceptable material.

25. A method of treating a disease which affects cartilage and/or bone and/or damage to cartilage and/or bone in a patient in need thereof, the method comprising implanting an implant material according to claim 14 into the patient.

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26. A method of use selected from the group consisting of a treatment of a bone defect, a sinus lift, a cyst filling in the jaw region, a bone fracture, a bone replacement, an application in cosmetic and plastic surgery and immobilizing movable bone parts, in a patient in need thereof, the method comprising implanting an implant material according to claim 14 into the patient.

27. The method of claim 26, wherein the bone defect is periodontosis.--

REMARKS

Claims 1-13 are currently pending. In this Response, applicants cancel claims 1-13, and add new claims 14-27. Claims 14-27 are presented for reconsideration.

Claims 12 and 13 are rejected under 35 USC §101 because these claims are written in non-statutory "use" format.

These claims have been canceled, and the subject matter thereof has been rewritten as new claims 25-27.

Claims 1-13 are rejected under 35 USC §112, second paragraph, as being indefinite.